EdiCoat™

Enabling Farmers Grow Food, The Natural Way

2024+ NAROK SYNTROPIC AGROFORESTRY

PROJECT OVERVIEW FOR GRANT FUNDING
FOR SCALE UP OF EXISTING PILOT PROJECT

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The problem

- **Land degradation:** reduced soil fertility, increased nutrient depletion and soil erosion, consequentially drop yields thus negatively impacting food security and livelihoods.

- **Limited Biodiversity**: ironically most small holder farmers eat the same kind of food repeatedly that is nutritionally deficient due to having a limited number of subsistence crops. This also increases the chances of pest and disease outbreaks.

- **Climate Change & Deforestation:** emanating from use of wood as a fuel. Kenya's forest cover has declined from around 10% at independence in 1963 to approximately 6% today. Translates to a loss of around 12,000 hectares of forest annually.

- **Reduced farmer Incomes:** low yields, increased production costs, unpredictable weather (from deforestation) and limited crop diversity are factors that always put small holder farmer incomes at risk.

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The Solution

*Instituting **Syntropic Agroforestry practices** at scale for tens of thousands of small holder farmers, across Sub Saharan Africa*

- **What is Syntropic Agroforestry?** mimics natural forests by layering plants for synergy and minimal inputs. This creates diverse, productive systems that benefit from natural pest control and nutrient cycling.

- **What will it entail? :**
  - Onboarding appropriate farmers and building their capacity
  - Offering them free seedlings, tools and agronomic support
  - Building a Carbon Programme to cover farmer support costs and expansion sustainably
  - Granting farmers access to premium markets for some of their commercial crops
  - Engaging in value addition to enable farmers get even higher prices for produce

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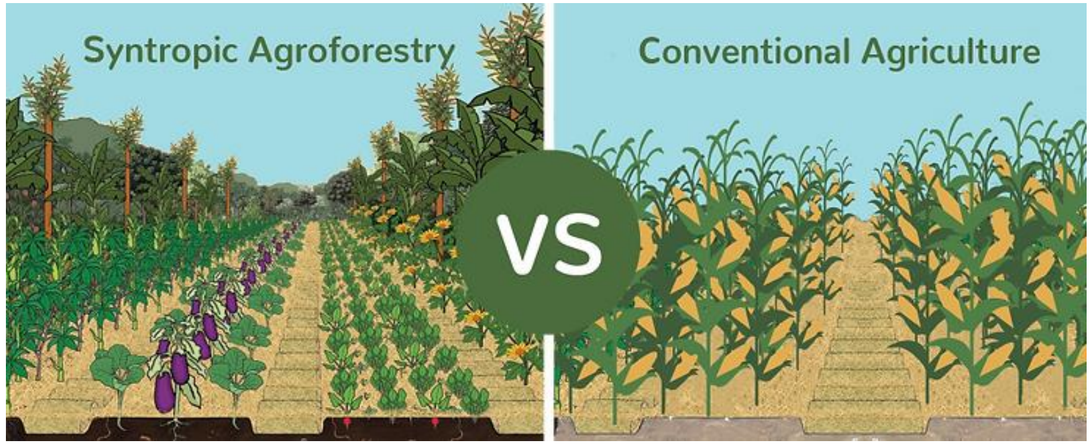
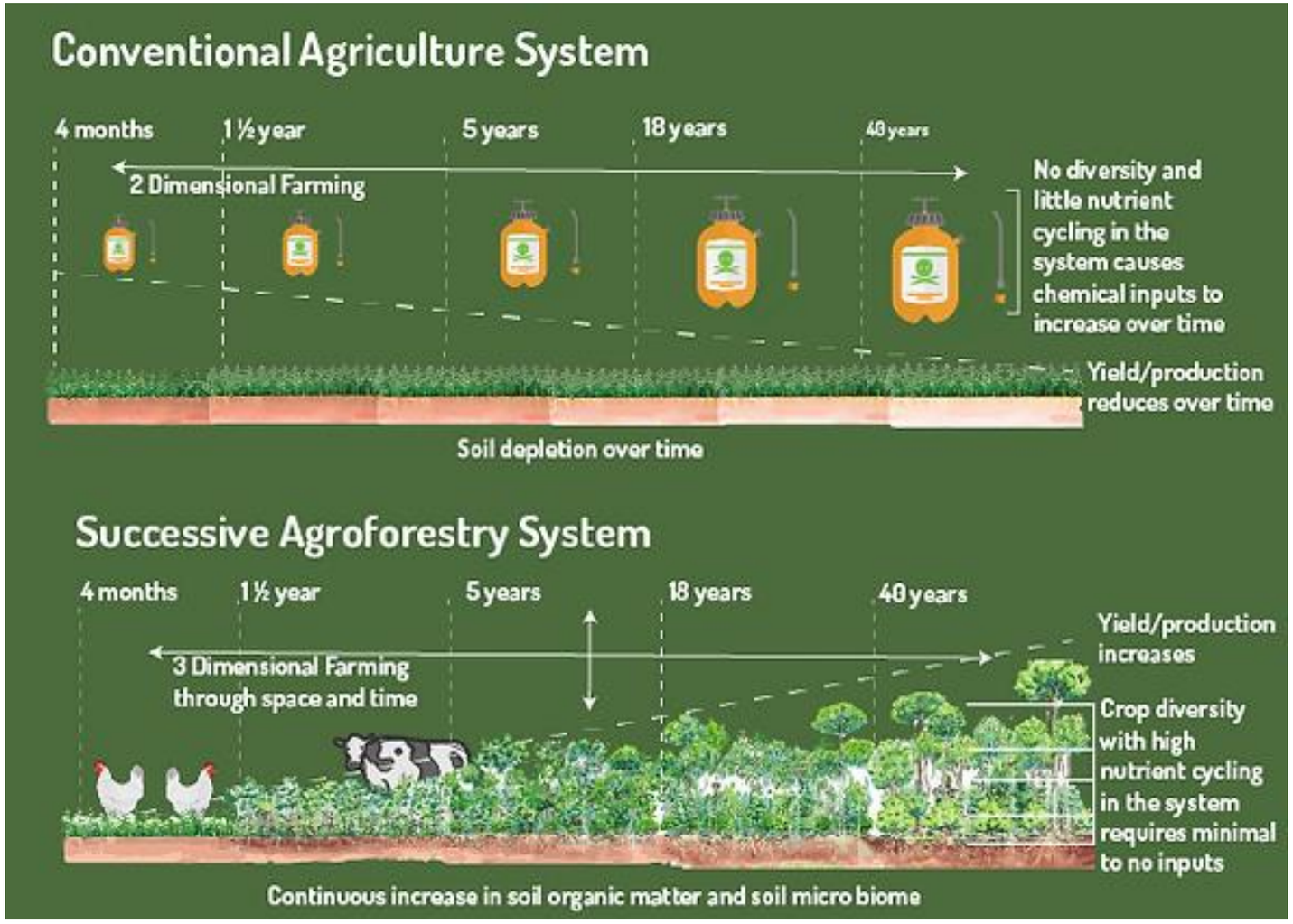
The Solution




Conventional Agriculture System
4 months
1½ year
5 years
18 years
40 years
2 Dimensional Farming
No diversity and little nutrient cycling in the system causes chemical inputs to increase over time
Yield/production reduces over time
Soil depletion over time
Successive Agroforestry System
4 months
1½ year
5 years
18 years
40 years
3 Dimensional Farming through space and time
Yield/production increases
Crop diversity with high nutrient cycling in the system requires minimal to no inputs
Continuous increase in soil organic matter and soil micro biome

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The Benefits

Land Rejuvenation creation of a multi-layered structure reduces soil erosion, replenishes essential nutrients, increases organic matter content, fosters better water infiltration. Yield output can increase with lower production costs for farmers.

Increased Biodiversity: Natural synergy is created. Beneficial insects control pests, diverse plants improve soil health, and trees regulate water. This translates to higher yields, lower costs, and a more sustainable farming system

Carbon Sequestration: Trees, healthy soils (not needing inputs) and use of minimal tillage foresters carbon dioxide storage, thus reducing greenhouse gases in the atmosphere.

Reduced deforestation: encourages getting more out of existing land. Diverse, productive systems reduce the need to clear new forests. Also, growth of trees can be utilized for domestic purposes.

Increased Farmer Incomes: due to lower production costs, a higher diversity of crops for both commercial and subsistence. Our facilitation to enable farmers access premium markets.

The Pilot-Phase 1

Start Date	August 2023 and Ongoing
Location	• Narok County, Nairagie Ngare • (-0.9627650804789515, 36.58260819708076) is our starting point.
Project Size	• 4 Farmers currently. 3 male and 1 Female • Fully onboarded, trained and managing 0.25-acre plots • Receiving regular biweekly field support. Monitoring & evaluation being done • Leadership Team of 4 involved part time • 1 Part Time Field Officer • Workshop done in March with Ernst Götsch
Project Funding & Amount	• Self funded to the tune of USD 10,000 by end of July 2024 • Services in kind offered by the Leadership Team worth USD 26,400 by the end of July 2024
Why Narok?	• Broad experience of 8 years doing commercial farming in Narok • Have an elaborate existing broad small holder farmer network • Adequate Farmer population of 1.5 million. • Approximately 40% of the land in Narok County is fertile or arable • Adequate rainfall thresholds of 780+ mm and average farmer land size of 21 acres • Potential to onboarding over 20,000 small holder farmers. • Preliminary studies with earmarked polygons of areas totaling 42,000 ha (103,740 acres)
Key Pilot Objectives	• Demonstrate overall feasibility • Develop and refine Plot design • Team and skills building • Data collection and monitoring- crop and community. Assess farmer commitment • Assess any challenges or unforeseen occurrences that may come into play e.g., sourcing of seeds, seedlings or cuttings, transport, aggregation, and distribution of the same etc.

EdiCoat™ Phase 2 -Pilot Scale Up 50-1,000 farmers In 2025- Grant Funding Needed

- **Feasibility & Viability** use learnings from the 4-farmer pilot to assess success levels at a larger scale of tree species, management practices and overall costs including optimization even with tens of thousands of farmers.

- **Environmental and Social Impact:** Streamline impact with regards to biodiversity betterment, soil health improvement, job creation, income generation and promotion of sustainable land management practices

- **Carbon Program Preparations:** What loose ends need to be tied up for the project to attract investment supporting tens of thousands of farmers? E.g., farmer onboarding, training, support, data management, cost optimization, impact metrics etc.

- **Farmer Income Increase:** can we access ready markets for some of the fruits or seasonal crops for the farmers? How do yields and costs compare to previous methods of crop management deployed by farmers?

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Pilot Scale Up 50-1,000 farmers

Potential Impact

Land Rejuvenation of 25-500 acres. Organic matter increase of 25 MT to 500MT pear year.

Increased Biodiversity: Diverse mix of Timber, Fruit Trees and Seasonal Crops 20-30 per 0.5 acres

Carbon Sequestration: 1.6 tCO2e/acre/year and 40-800 tCO2e/acre/year *(for all used land)*

Increased Farmer Incomes: Up to USD 1,000/ half acre over the first 3 years. Total project earnings of USD 50,000-1,000,000 *(for all used land)*

Improved Nutrition : Studies will be done to quantify how farmer meals will change but they are bound to be more nutritious due to the wide diversity

Job Creation: 50- 500 direct and indirect jobs, (both part time and full time) with a high number being youth and great levels of diversity being adhered to.

Pilot Scale Up 50-1,000 farmers
Cash Needs- Grant Funding

- **Average Farmer Onboarding Costs:** based on our experience so far this equates to USD 1,000/farmer. This includes, purchase of Seeds & Seedlings, provision of Farmer tools & Equipment and Training

- **Average Farmer Support Costs/year:** we have seen figures trending at almost USD 150 to 250/farmer/Year.

- **Pilot Scale Up for 50 farmers 3 years:**, USD 50,000 would be needed for onboarding and an additional USD 37,500 to support administration costs. When rounded up USD 100,000.

- **Pilot Scale Up for 1,000 farmers 3 years:** USD 1,000,000 would be needed for onboarding and an additional USD 450,000 to support administration costs. When rounded up USD 1,500,000.

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Milestones

2021

Ideation of making Edible Coatings begins
MARCH

First iteration of the Edible Coating made via Home Experiments
AUGUST

Worked with KIRDI in a commercial lab setting on iteration 2
NOVEMBER

2022

Shortlisted in a 1-year incubation programme by KCIC out of 800 Applicants
APRIL

Kenya Climate Innovation Center

Business entity registration, branding, trademarking, bank account setup, fulfillment of regulatory requirements- VAT/PIN registration, landing page, emails, business modelling
AUGUST

2023

Worked on iteration 3 with improved efficacy – 10 days shelf-life extension
FEBRUARY

MOFARM

powerlife™ Agricultural Processing Solutions

Avodemia "The real avocado experience"

Commercial trials design, selected 3 exporters- MOFARM & AVODEMIA,POWER LIFE, onboarded an Avocado Consultant & Shortlisted a Food Scientist to aid in full Product Development
MARCH

Successfully graduated from the KCIC Incubation Programme
APRIL

Opted to pivot to focus on Syntropic Agroforestry due to the immense direct impact it can have on small holder farmers
AUGUST

2024

Kicked off the first Syntropic Agroforestry workshop in Narok with the world renowned Syntropic Agroforestry Guru Ernst Gotsch. 4 farmer Pilot set Up and running
MARCH

Key Team Members

George Kuria
CEO & Operations Head

- 19 years of expertise- Sales, Marketing & Customer Service, FMCG), Banking, Trade fairs events, as well as consulting roles and as also as an entrepreneur.
- 5 years of experience in Agribusiness as a Commercial Farmer and market growth for GrainPro's Post Harvest Storage Solutions in East Africa.
- Was instrumental in creating retail channels for VIP's Mavuno Kenya brand of value-added Dried Mango.

Charles Kariuki
Commercial Head

- 20 years in diverse, sales, marketing, business development and operational roles
- 8 years of experience in Agribusiness as an entrepreneur & intrapreneur. Deployed Digital Agronomy solutions to a 300,000 SHFs network through iSDA (Gates funded), developed VIP's (Factor [e] & Shell Foundation funded) Mavuno Kenya brand of Value-Added dried Mango to curb food loss and, onboarded thousands of SHFs to access Bountifield's mechanized Post Harvest Loss Solutions.

Julius Macharia
Carbon Head

- Carbon Offset Expertise: of 6 years of experience in M&E, project management, and carbon credit issuance processes.
- Project Management: Successfully tracked and managed M&E requirements for various projects, measuring social and environmental impacts.
- Design and Research: Experience in contributing to the design of market research and carbon studies, catering to different departments and stakeholders.

Kevin Waichigo
Syntropic Agroforestry Head

- Over 5 years frontline experience in commercial and community farming projects
- Over 10 years overall work experience spanning across: Sales, Finance, Operations, Inventory Management & Logistics.

Advisory Board Members

(onboarding in progress)

Dr. Caesar Mwangi
Executive Dean –
Strathmore Business School (SBS)

- Extensive Management Experience: Over 25 years in diverse leadership roles, including CEO and Managing Director positions in various organizations across Africa even the agricultural sector- former CEO of Sasini.
- Strong Governance Background: Chaired and held board positions in several prominent institutions, demonstrating expertise in governance and risk management.

Oli Raison
Director- Safarini

- Business operator and certified executive coach, experienced in private sector multi-national, start-up /SME and non-profit environments.
- Built numerous business in the clean energy space targeting rural dwellers with annual sales of USD 2-3 million/year within the region.

Alexandra Spieldoch
Chief Executive Officer- Bountifiled

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Rose Ndungu
Chief Strategy Officer-
GrainPro Inc.

- Seasoned Operations Manager: 15 + years of experience, including 10 in leadership positions, managing various operations in East & Southern Africa. Including within the agri-sector.
- Expertise in Cross-Sector Partnerships: Successfully collaborated with governments, NGOs, and private companies across diverse industries.

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Why now & us?

1. Alignment with SDGs

Able to put more money in the pockets of small holder farmers, numerous youth and women too.

Huge opportunity to reduce GHG emissions from CO2 through sequestration via the trees, low or zero tillage farming and no use of synthetic fertilizers

Growing world population estimated to hit 10 billion by 2050, there is huge pressure on existing food systems, thus increasing food production sustainably is paramount

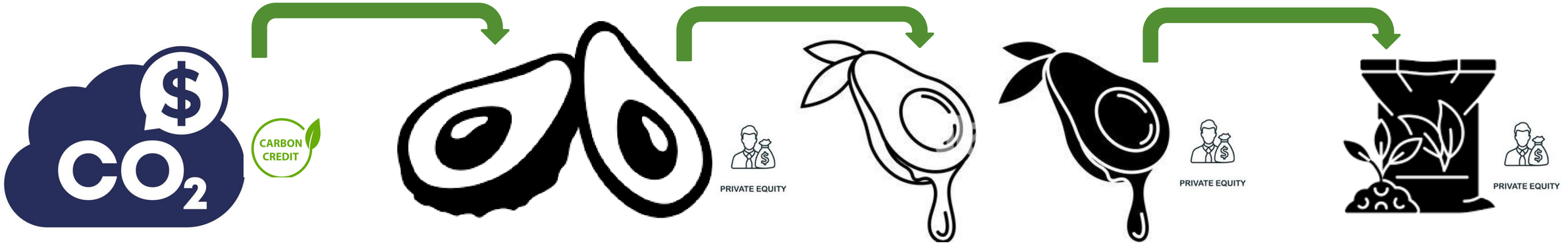
Well aligned with the protection, restoration and promotion of sustainable use of terrestrial ecosystems, including forests, reversing land degradation and halting biodiversity loss

2. Diverse & relevant Founding Team experience- 5 years Carbon Credit Project Management and 20 years of agribusiness experience.

3. A highly scalable and replicable model across Sub Saharan Africa impacting tens of thousands of farmers directly.

Business Model, Revenue & The Future

Post pilot, the Business has several Revenue models lined up which are as follows at the Carbon Project stage *(when thousands of farmers are onboarded)*:



A. CARBON REVENUE

*To be utilized solely to cover the onboarding of farmers and offer them ongoing support over a project period of 20-30 years. Estimated at USD 30-60/year/acre. For 10,000 farmers (5,000 acres)= USD 150,000-300,000/year**

B. ORGANIC AVOCADO EXPORTS

*To be a trade commission of 20% on the price offered to exporters. For 10,000 farmers (5,000 acres)= USD 550,000-/year***

C. ORGANIC AVOCADO OIL

*To be made from the Avocado rejects. Semi processing will be done then resold to already established exporters. For 10,000 farmers (5,000 acres)= USD 1,000,000-/year***

D. ORGANIC FERTILIZER

*As a by-product of the Organic Avocado Oil. To be sold to target farmers still using synthetic fertilizer as a cheaper option. For 10,000 farmers (5,000 acres)= USD 1,500,000-/year***

**These are very rough figures and further studies need to be done by our Carbon Expert. Also prevailing global prices come into play*

***Depends on several factors: avocado tree population, yields, farmer supply, quality, global prices etc.*

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